

Docket No. 520.42879X00
Serial No.10/625,639
Office Action dated January 3, 2007

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REMARKS

By the present Amendment, claims 1, 13, 19, 20, 22, and 27 have been amended. Claims 28-39 are newly presented for consideration. Accordingly, claims 1-6, 8-10, 12-14, 17-22, and 28-39 are now pending in the application. Claims 1, 13, 28, 33, and 38 are independent.

In the Office Action of January 3, 2007, claims 1-6, 8-10, 12-14, 17-22, and 27 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,897,996 issued to Ikeda et al. ("Ikeda") in view of U.S. Patent Publication Application No. 2002/0167480 to Johnson et al. ("Johnson"). This rejection is respectfully traversed.

In rejecting, for example, independent claim 1, the Office Action alleges that Ikeda discloses an electrophoretic display that comprises most of the features recited therein. In particular, the Office Action alleges that the second electrode of Ikeda is disposed on the second substrate and provided with a reflector function with an uneven surface comprising a plurality of bumps in each pixel. The Office Action admits that Ikeda fails to disclose the first electrode being disposed on the first substrate and the second electrode being disposed on the second substrate in such a manner that the first and second electrodes are opposite to each other. Additionally, the Office Action admits that Ikeda fails to disclose the first electrode having a network structure with a window in each pixel. The Office Action relies on Johnson for disclosing these features. More particularly, the Office Action contends that the first two electrodes (6, 6') of Johnson are provided on a first substrate (12), while a second electrode (7) is provided on a second substrate (11) in such a manner that the first and second electrodes are opposite to each other. Reference is directed to page 2, paragraphs [0031] to [0035]. Additionally, the Office Action

Docket No. 520.42879X00
Serial No.10/625,639
Office Action dated January 3, 2007

alleges that once this particular modification had been made to the invention of Ikeda, the resulting area between the first two electrodes on the first substrate would read on the window recited in the claimed invention for each pixel. Applicants respectfully disagree.

By the present Amendment, Applicants have made various changes to the claims in order to better define the features that are not shown or suggested by the art of record. For example, independent claim 1 now defines an electrophoretic display that comprises:

An electrophoretic display comprising a first and second substrates each being disposed with a predetermined gap therebetween; a layer comprising an insulating solvent and charged particles dispersed in the insulating solvent, the layer being sandwiched between the substrates; a first electrode disposed on the first substrate on the second substrate; and a second electrode disposed on the second substrate in such a manner that the first and second electrodes are opposite to each other, wherein the first electrode has a network structure with a window in each pixel, wherein the first electrode is divided into a plurality of segments per pixel and the segments have the same voltage in the pixel, and wherein the second electrode is provided with a reflector function with uneven surface comprising a plurality of bumps in each pixel, the bumps being formed continuously and arranged in a string like form.

According to independent claim 1, the electrophoretic display comprises first and second electrodes that are arranged such that they are opposite to each other. The first electrode can be disposed on either the first substrate or the second substrate. The second electrode is disposed on the second substrate and provided with a reflector function with an uneven surface comprising of a plurality of bumps for each pixel. The bumps are formed continuously and arranged to have a string like configuration. The first electrode further includes a network structure that has a window in each pixel and is divided into a plurality of segments per pixel. The segments additionally have the same voltage in the pixel.

Docket No. 520.42879X00
Serial No.10/625,639
Office Action dated January 3, 2007

The Office Action contends that Ikeda discloses various features of the claimed invention. Applicants' review of the references, however, has failed to provide any disclosure or suggestion for feature now recited in independent claim 1. For example, the Office Action indicates that Johnson provides two first electrodes on a first substrate. The device of Johnson includes a column electrode that receives a voltage from the row driver. See paragraph [0028]. Johnson also includes a third electrode (6') with a corresponding drive means to supply the third electrode with an electric voltage. See column [0030]. Accordingly, both the column electrode (6) and the third electrode (6') include their own drive means and are independently and separately controlled. In contrast, the electrode of independent claim 1 is continuously formed to have a string like configuration with the same electric potential and control. See page 8, lines 5-24. Furthermore, the structure of the electrodes of the claimed invention is clearly shown in Figs. 16A and 16B of the Disclosure. The art of record simply fails to provide any disclosure or suggestion for features recited in independent claim 1. It is respectfully submitted that independent claim 1 is allowable over the art of record.

Claims 3, 10, and 12 depend from independent claim 1, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 1. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

As amended, independent claim 13 defines an electrophoretic display that comprises:

An electrophoretic display comprising a first and second substrates arranged with a predetermined space; a layer sandwiched between the substrates and comprising an insulating solvent and charged particles dispersed in the solvent; a first electrode disposed

Docket No. 520.42879X00
Serial No.10/625,639
Office Action dated January 3, 2007

on the first substrate or the second substrate; and a second electrode disposed on the second substrate in such a manner that the first and second electrodes are opposite to each other in a pixel, wherein the first electrode is divided into a plurality of segments per pixel and the segments have the same voltage in the pixel, wherein the first electrode has a network structure with a window in each pixel and wherein the second electrode has an uneven surface comprising a plurality of bumps and concaves having a random pattern, the bumps being formed continuously in a string like form.

Independent claim 13 includes various features that are somewhat similar to those recited in independent claim 1. For example, the first electrode is divided into a plurality of segments per pixel, and the segments have the same voltage in the pixel. Additionally, the second electrode is provided with a reflector function with an uneven surface that comprises a plurality of bumps in each pixel. The bumps are also formed continuously and arranged in a string like configuration. As previously discussed, the art of record simply fails to provide any disclosure or suggestion for these features.

It is therefore respectfully submitted that independent claim 13 is allowable over the art of record.

Claims 2, 4-6, 8, 9, 14, 17, 18, and 27 depend, either directly or indirectly, from independent claim 13, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 13. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

Applicants further note that the Office Action cites various passages in Johnson in support of the rejection of some of the dependent claims. For example, regarding claim 8, the Office Action alleges that Ikeda teaches/suggests uneven surfaces with a string structure of continuous bumps. Reference is directed to

Docket No. 520.42879X00
Serial No.10/625.639
Office Action dated January 3, 2007

column 4, lines 8-34. Applicants' review of this passage, however, has failed to provide any description that would correspond to the allegations made in the Office Action. Ikeda merely appears to disclose a single protrusion, or bump. The interpretation that this disclosure could somehow correspond to features recited in the instant claims and shown in the figures appears to be nothing more than impermissible hindsight reconstruction. Further, the Office Action provides citation to a passage where Johnson allegedly provides motivation for combining with the teachings of Ikeda. Review of this passage did not disclose anything related to the provision of bumps in a string like structure. Rather, the description on paragraphs [0033] to [0035] relates only to the arrangement and operation of the column electrode (6) and the third electrode (6').

Claims 28-39 are newly presented for consideration. Independent claims 28, 33, and 38 each recite features that are somewhat similar to those discussed with respect to independent claim 1. For example, each of these independent claims includes bumps that are formed continuously, and arranged in a random fashion. As previously discussed, such features are not shown or suggested by the art of record.

Claims 29-32, 34-37, and 39 depend from independent claims 28, 33, and 38, respectively, and are therefore believed allowable over the art of record.

For the reasons stated above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a Notice of Allowance is believed in order, and courteously solicited.

If the Examiner believes that there are any matters which can be resolved by way of either a personal or telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

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MAR 30 2007

Docket No 520.42879X00

Serial No.10/625,639

Office Action dated January 3, 2007

AUTHORIZATION

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 520.42879X00).

Respectfully submitted,

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